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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/325,119	06/03/1999	PHILIP P. CARVEY	AVI99-02	2433

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EXAMINER

SINGH, DALZID E

ART UNIT	PAPER NUMBER
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2633

DATE MAILED: 12/31/2003

15

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/325,119

Applicant(s)

CARVEY ET AL.

Examiner

Dalzid Singh

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 11-20 and 23-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11-20 and 23-25 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8, 11-20 and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shively (US Patent No. 5,978,370) in view of Lahat et al (US Patent No. 6,417,944).

Regarding claims 1, 13 and 25, Shively disclose switching system, shown in Fig. 1 comprising:

a plurality of inputs and output (as shown in Fig. 6, the switch (61) comprises plurality of input port (for example, arrows shown going to the switch) and output port (arrows shown going out of the switch);

switch that operate with a schedule not directly determined by the input stream (see col. 9, lines 9-46 and col. 10, lines 26-57, Shively teaches that the data cell is buffered and rearranged by TSI (time slot interchange), using scheduling algorithm, therefore the switch operate with a schedule not directly determined by the input stream); and,

a plurality of reordering units that rearrange the order of data units within data streams to correspond to the schedule of the switch (as shown in Fig. 6, TSI connected to the switch can be considered as ordering units; see col. 9, lines 9-46 and col. 10,

lines 26-57, Shively teaches that the stored data cell within TSI are ordered using scheduling algorithm).

Although Shively teaches the use of switch, however, Shively does not teach the use of optical switch. Lahat et al is cited to show the use of optical switch (see Fig.1). . Since the use of optical switch is well known, as evidenced by Lahat et al, therefore it would have been obvious to an artisan of ordinary skill in the art to provide the optical switch as taught by Lahat et al to the switching system of Shively. One of ordinary skill in the art would have been motivated to do this, since optical switch allows high bandwidth transmission and increase data transmission rate.

Regarding claims 2, 5, 14 and 17, the switch of Shively as disclosed above performs switching function wherein a plurality of inputs is connected to a plurality of outputs. It would have been obvious to call the switch of Shively as a crossbar or multi-stage interconnection since these switches have the same functionality, which is to transfer a plurality of data signal from various points (sources) of the input to various points (destination) of the output in order to correctly route data signals from source to destination.

Regarding claims 3, 4, 15 and 16, as cited in col. 9, lines 38-41, Shively teaches the use of input buffer and output buffer (buffers are within the TSI unit which is connected to input and output of the switch), which are controlled by scheduling algorithm to avoid collision of data signal (see col. 9, lines 9-46 and col. 10, lines 26-57).

Regarding claims 6 and 18, Shively teaches the use of time-slot interchanger (see col. 9, lines 9-30) to reorder data signals.

Regarding claims 7 and 19, as discussed above, the data signal is buffered and arranged, therefore it would have been obvious to provide the first input as the first output (FIFO).

Regarding claims 8 and 20, as cited in col. 9, lines 38-41, Shively teaches a dual port memory (two banks of memory).

Regarding claims 11 and 23, since data cells are buffered and transmitted using a scheduling algorithm, there must be a controller to control operation of the system.

Regarding claims 12 and 24, as discussed above, Shively teaches buffer modules, and there must be a controller which set up connection to schedule transmission of data cells to the switch (see col. 9, lines 9-46 and col. 10, lines 26-57).

Response to Arguments

3. Applicant's arguments with respect to claims 1, 6-8, 13, 18-20 and 25 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Aybay (US Patent No. 6,185,221) is cited to show method and apparatus for fair and efficient scheduling of variable-sized data packets in an input-buffered multipoint switch.

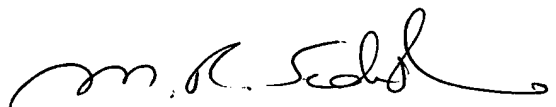
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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalzid Singh whose telephone number is (703) 306-5619. The examiner can normally be reached on Mon-Fri 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703) 305-4729. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

DS
December 20, 2003


M.R. SEDIGHIAN
Patent Examiner
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